Fw: Gilbert
Eric Blischke to: Kristine Koch, Chip Humphrey 10/28/2008 03:17 PM

FYI - maybe we are settling on something here.

Eric
----- Forwarded by Eric Blischke/R10/USEPA/US on 10/28/2008 03:16 PM -----

"Chappell, Richard" <ChappellRW@cdm.com>
10/28/2008 03:11 PM

To Eric Blischke/R10/USEPA/US@EPA
cc
Subject RE: Gilbert

Eric,

You better be careful or you'll get like me!

After looking over all that you sent me, I believe I understand the issue very well, and am pretty sure that the stratified approach (described in Gilbert) is the best approach, or some variation thereof. We need to be sure we are calculating the standard error correctly, i.e., the weighted variance, so I'm going through that now to be sure. You would expect that the standard error would be lower in cases where the variances in basins with high weighting factors are relatively lower - in fact, that's the reason for designing a stratified approach in the first place, to get a more certain estimate than you would otherwise. Anyway, I'm in the process of writing this up now, and will send it to you asap (probably get it before noon tomorrow).

Rick

From: Blischke.Eric@epamail.epa.gov
Sent: Tue 10/28/2008 4:02 PM
To: ChappellRW@cdm.com
Cc: Koch.Kristine@epamail.epa.gov
Subject: Gilbert

Rick, since I can't seem to get enough of this, I read through Chapter 5
of Gilbert (stratified random sampling). Working off the example on
page 48-49, and the stormwater data in the example calculations spreadsheet, I developed a flow-weighted estimate. They are included in
the attached spreadsheet.

What is interesting to me is that the mean values do not change from the
LWG and DEQ/COP flow weighted estimates and the max and min do

not
change from the DEQ/COP approach. However, when I estimate the mean UCL
and distribution UCL, they seem too low to me relative to the mean UCL
and distribution UCL based on the entire data set. I am not sure what
the issue is here. I used n=20 to develop my estimates; maybe I should've used n=5.

In any event, we seem to be developing estimates that are not inconsistent with Gilbert.

Eric

(See attached file: GilbertStormwaterCalc.xls)